

REMARKS

In light of Applicant's election of group 2 to include the claims 20-38, Applicant has cancelled claims 1-19.

The Examiner rejected claims 20-22, 24-26 and 34-36 under 35 U.S.C. 102(e) as being anticipated by Hogerton (US 2003/0189490). The Examiner also rejected claims 23 and 28 under 35 U.S.C. 103(a) as being unpatentable over Hogerton in view of Hohberger (US 2003/0063001). The Examiner further rejected claims 27, 29-33 and 37-38 under 35 U.S.C. 103(a) as being unpatentable over Hogerton in view of Murphy (US 5,843,252).

Applicant's invention is an RFID label applicator which has several features which are not disclosed in the prior art. Applicator 10 includes a head or head assembly 42 with an RF antenna 70 mounted thereon and more particularly disposed within head 42. The mounting of antenna 70 on applicator head 42 allows for the testing of label 14 while it is in contact with applicator head 42 and more particularly while label 14 is suctioned to a lower surface of head 42. While antenna 70 may be removable for repair or replacement, it is situated in fixed relation to head 42 when mounted therein. Thus, antenna 70 moves wherever head 42 moves unlike the prior art systems where the antenna is disposed at a fixed position separate from an applicator head. Head 42 is configured to blow an RFID label 14 onto an item 20 or to tamp and then blow the label onto the item. In the exemplary embodiment, head 42 moves in an up and down or first direction during the tamping so as to apply label 14 by moving it in the first direction. In accordance with the invention, head 42 also moves in a second lateral direction which is transverse to (typically substantially perpendicular to) the first direction in order to move head 42 from a position above the application zone where a viable label is applied to item 20 to a rejection position adjacent the rejection location. Thus, head 42 is able to move a non-viable label 14 carried by head 42 via suction to the rejection position of head 42 and then blow the non-viable label onto the rejection position on top of a rejection table. The exemplary embodiment utilizes a slide assembly 83 in order to move head 42 in a

substantially horizontal direction from the home position above the application zone to the rejection position above the rejection location. The prior art fails to teach or suggest such sliding or other movement of head 42. As a result, the prior art fails to teach an applicator head which is capable of blowing a label onto an item if it is viable and also blowing a label if it is non-viable to a rejection area.

The Examiner rejected claims 20-22, 24-26 and 34-36 under 35 U.S.C. 102(e) as being anticipated by Hogerton (US 2003/0189490). Applicant has amended claim 20 to indicate that viability testing is done when the RFID label is in contact with an applicator head. In contrast, Hogerton discloses two embodiments of an RFID label applicator which teach away from this limitation. More particularly, Hogerton teaches the first embodiment shown in Figs. 2-3 wherein an adhesive tape 74 is threaded through a first set of rollers and passes adjacent RFID labels 66 which are disposed on a carrier 68 threaded on a second set of rollers. More particularly, labels 66 pass an interrogator or antenna 100 in order to be programmed thereby and immediately thereafter either pass around roller 89 while remaining on carrier 68 as a rejected label 67 as shown in Fig. 2 or move adjacent roller 89 onto tape 74 which has been moved in contact with labels 66 and carrier 68 in order to make the transfer of label 66 onto tape 74 when the label is viable. Non-viable labels 67 are wound onto a reject roll 70 and viable label 66 are carried on tape 74 downwardly from roller 89 and around rollers 82 to an applying mechanism or roller 16A which applies tape 74 with label 66 thereon to a box 30 or other item. Thus, the testing of a label 66 occurs via an interrogator 100 which is fairly distant from the applicator 16A which applies the label and tape 74 to box 30. The first embodiment of Hogerton is configured in order to separate the viable labels from the non-viable labels adjacent roller 89 and thus interrogator 100 must be disposed adjacent roller 89 and upstream thereof.

The second embodiment of Hogerton is shown in Figs. 4-5 and involves a similar concept without the use of the adhesive tape 74 of the first embodiment, thus eliminating the transfer of the labels 66 onto such an adhesive tape.

Instead, the second embodiment of Hogerton teaches direct application from the carrier tape 66 onto an item such as box 30. More particularly, interrogator 100 is disposed adjacent a tape dispensing mechanism 126 with carrier 68 and label 66 passing therebetween and carrier 68 wrapping around dispensing mechanism 126 and ultimately onto roll 72. If interrogator 100 determines that a label 66 is viable, actuator 130 moves platen 128 linearly outwardly to create a peel edge for applying the viable label 66 to box 30. If interrogator 100 determines that a label is non-viable, actuator 130 pulls platen 128 back in an opposite linear direction so that guides 129 provide a semi-circular surface so that reject label 67 stays on carrier 68 and rolls onto roll 72. While this second embodiment of Hogerton discloses that interrogator 100 tests the label adjacent dispensing mechanism 126, it nonetheless teaches away from testing a label which is in contact with an applicator head because carrier 168 must remain in contact with dispensing mechanism 126 in order for the Hogerton apparatus to function. More particularly, the labels or 66 must be disposed on carrier 68 opposite dispensing mechanism 126 in order for the labels to peel off of carrier 68 when platen 128 is extended. The only way in which label 66 may contact dispensing mechanism 126 is for the labels to be on the opposite side of carrier 68 which would defeat the ability of dispensing mechanism 126 to function. For the above reasons, Applicant thus submits that claim 20 as amended is allowable and that claims 21 and 24-26 are allowable as depending from an allowable claim.

Claim 22 has been cancelled.

Independent claim 34 has also been amended to include the step of blowing the label to move the label to the item if the label is viable and blowing the label to move the label to a reject area if the label is non-viable. Hogerton teaches application of label via a merging concept or application via a tape application mechanism and thus fails to teach or suggest this limitation. Thus, Applicant submits that claim 34 as amended is allowable and that claims 35 and 36 are allowable as depending therefrom.

Inasmuch as Applicant's invention involves the step of testing an RFID label for viability adjacent an application zone when the label is in contact with an applicator head; and the steps of blowing the label related to the item if the label is viable and blowing the label to move the label to a reject area if the label is non-viable; Applicant submits that the present invention is patentably distinct over the cited references.

The Examiner also rejected claims 23 and 28 under 35 U.S.C. 103(a) as being unpatentable over Hogerton in view of Hohberger (2003/0063001). Applicant first notes that in light of the cancellation of claim 22 that claim 23 has been amended to change the dependency thereof to claim 21 but that claim 23 has not been substantively amended. Applicant respectfully disagrees with the Examiner's reading of Hohberger. The Examiner indicated specifically that paragraphs 47-51 of Hohberger disclose that the testing step includes coupling the antenna electronically to the label through at least a portion of the applicator head and that the antenna is mounted within the applicator head. Applicant fails to find such language in said paragraphs or anywhere else in Hohberger. While the Examiner was not explicit, Applicant believes from the Examiner's comments that the Examiner understands the applicator head to be head 54, applicator mechanism 56, or portions thereof with regard to first and second embodiments or processes described in Hohberger.

Hohberger discloses a method of attaching a transponder 52 to either an adhesive label 26, as shown most particularly with reference to Figs. 3, 5 and 8 or adhering a transponder 52 to a stiff media 176 as best seen in Figs. 11-15. Each of these procedures utilizes the applicator mechanism in 56. However, as seen in Fig. 5 Hohberger teaches an antenna 110 which is disposed laterally of the guide plate 54 of applicator mechanism 56. Fig. 5 specifically shows that antenna 110 creates an RF signal 108 in order to program transponder 52 and that this step in no way involves the coupling of the antenna electronically to the label through a portion of the applicator head 54 or assembly 56. As clearly seen in Fig. 8 of Hohberger, once transponder 52 has been programmed as shown in

Fig. 5, linear activator 116 is operated to move dispensing mechanism 66 and in particular rigid guide plate 114 directly beneath vacuum guide plate 54 and label 26 which is movably attached to plate 54 by a relatively weak suction. Hohberger also teaches an embodiment in Fig. 20 having an alternate applicator mechanism 306 which aids in the control of label 26 and an alternate feed mechanism for supplying a transponder 312 for attachment to label 26. Similar to the first embodiment, the embodiment shown in Fig. 20 teaches that antenna 314 produces an RF signal 316 and thereby electronically couples with transponder 312 to program transponder 312. Again, this embodiment clearly shows that there is no coupling of the antenna electronically to the label through a portion of the applicator head nor that the antenna is mounted on or within the applicator head. Thus, Applicant submits that claims 23 and 28 are independently allowable in addition to depending from an allowable claim.

Inasmuch as Applicant teaches an RFID applicator which includes an applicator head with an RFID antenna mounted thereon and that an RFID label is tested by coupling the antenna electronically to the label through at least a portion of the applicator head, Applicant submits that the present invention is patentably distinct from the cited references.

The Examiner further rejected claims 27, 29-33 and 37-38 under 35 U.S.C. 103(a) as being unpatentable over Hogerton in view of Murphy (U.S. 5,843,252). Applicant respectfully disagrees with the Examiner with regard to claims 27, 37 and 38. Applicant initially notes that the limitations of claim 37 have been incorporated into claim 34 and that claim 37 has been cancelled. Applicant will thus make arguments further below with regard to claim 34 in response to the Examiner's rejection of claim 37.

The Examiner indicates that Murphy discloses that the moving step includes sliding an applicator head carrying the label from a position adjacent the application zone to a position adjacent to the reject area, citing column 9, lines 55-65, and that Murphy discloses that such a mechanism prevents the application of defective labels. The Examiner subsequently notes with regard to

claim 38 that the Examiner deems the home position adjacent the application zone to be the down position in Fig. 5E and the reject position to be the up position in Fig. 5E. As stated above, Applicant respectfully disagrees with the Examiner's reading of the Murphy patent. Applicant admits that the applicator head 124 of Murphy does carry the RFID label 102A via suction from the upper position of applicator head 124 to the lower position thereof. However, Applicant submits that the applicator head 124 of Murphy does not carry the label 102A from the lower position to the upper position of head 124. Applicant submits that with reference to Figs. 5A-5E and column 9, line 13 to column 10, line 6 that in Murphy, applicator head 124 functions as follows.

As shown in Fig. 5A, print head 110 prints label 102A which is then moved toward transport belts 114 and 116 to a position therebetween and in the process is stripped from carrier 104 as shown in Fig. 5B. Belts 114 and 116 revolve to further move label 102A to a parked position (Fig. 5C) at which time it is determined whether (due to the high-speed nature of the machine) the label can be applied to box 130 or will be rejected into a receptacle 136 (Fig. 5E). If the determination which takes place in the parked position of Fig. 5C indicates that the label will be applied, belts 114 and 116 move label 102A as shown in Figs. 5D and 5E to be suctioned onto applicator head 124 (column 9, lines 49-54). This is more particularly achieved by an air stream 938 emanating from an air deflector 936 (Fig. 7B) to push label 102A upward toward the suction of applicator head 124 (column 9, lines 49-54). Applicator head 124 is then moved from the upper position where it received label 102A to the lower position shown in dashed lines in Fig. 5E to apply label 102A to the item as shown. However, if it is determined in the parked position shown in Fig. 5C that label 102A is not to be used, air deflector 936 (Fig. 7B) is turned off (Column 9, lines 55-56) so that it does not blow label 102A toward applicator head 124. Instead, belts 114 and 116 are operated to shoot label 102 in a rapid manner completely past applicator head 124 and into rejection receptacle 136. (Column 9, lines 60-65).

Thus, Murphy teaches precisely opposite what is claimed in claim 27. That is, Murphy teaches an applicator head 124 which carries a label 102A from a position adjacent a reject area 136 (up position) to a position adjacent an application zone (down position) in order to apply the label to a box or the like if the label is viable. To the contrary, claim 27 requires the steps of sliding an applicator head carrying a label from a position adjacent the application zone to a position adjacent the reject area if the test reveals that the label is non-viable. Indeed, Murphy teaches away from this limitation because once applicator head 124 has carried label 102A to the lower position thereof and applied said label to a box or the like, there will be no label carried by head 124 in the opposite direction. Further, applicator head 124 must be in the upper position in order to receive label 102A from belts 114 and 116. Thus, Murphy cannot teach a label moving from the lower to the upper position of head 124. Applicant therefore submits that claims 27 and 38 are allowable in their own right in addition to depending from allowable claims 20 and 34 respectively.

Applicant submits that claims 29-33 are allowable as depending from an allowable claim.

As noted above, claim 37 has been cancelled and the limitation thereof incorporated into claim 34 and thus Applicant addresses the rejection of claim 37 with regard to Murphy. In addition to the above discussion regarding Murphy, Applicant notes that applicator head 124 is capable of both suctioning label 102A onto applicator 124 as well as blowing the label at the lower position shown in Fig. 5E onto a box or the like. However, as discussed above with regard to the rejecting of non-viable labels, Applicant submits that applicator head has nothing to do with moving labels to a rejection area if the label is non-viable. As previously noted, and to the contrary, belts 114 and 116 revolve to rapidly shoot rejected labels past head 124 and into receptacle 136 and thus to not use applicator head 124 at all in the rejection process. Indeed, if applicator head 124 did blow an air stream outwardly during this rejection process, labels 102A would likely be blown off course and miss their mark of receptacle 136. Thus, Applicant

submits that Murphy fails to teach or suggest this limitation and indeed teaches away from it. Applicant thus submits that amended claim 34 is allowable over the combination of Hohberger and Murphy.

Inasmuch as Applicant's invention includes the step of blowing an RFID label to a reject area if the label is non-viable; and the step of sliding an applicator head carrying the label from a position adjacent the application zone to a position adjacent the reject area, Applicant submits that the present invention is patentably distinct from the cited references.

Applicant has added new claims 39-59 including independent claims 47 and 54 and submits that said claims are patentably distinct from the cited references.

Claim 39 depends from claim 20 and includes the step of separating the label at least partially from a carrier web prior to the step of testing. Applicant notes that Hogerton teaches away from this limitation, requiring that the label remain completely attached to the carrier web prior to the step of testing in order to allow the label to be rejected by moving around roller 89 should the label be non-viable. Hohberger teaches two different types of labels, label 26 which does not have a transponder at the beginning of the process and what is referred to as transponder 52 having an integrated circuit 44 which is written to by antenna 110. Thus, while label 26 may be partially separated from carrier web 12 prior to the step of testing transponder 52 and more particularly circuit 44, at this point label 26 does not include transponder 52. If transponder 52 and circuit 44 themselves are deemed to be a label having a transponder, it is clear that the testing and any other signals from antenna 110 occurs prior to transponder 52 being separated from carrier web 46 at peel edge 134. Thus, Hohberger teaches away from this limitation. Murphy fails to teach the use of an RFID label altogether and thus inherently cannot teach the step of testing for the viability of an RFID label.

Claim 40 is similar to claim 39 except it involves the complete separation of a label prior to the step of the testing, thus providing an even stronger argument beyond the cited references.

Claims 41 and 42 respectively relate to testing the label with an antenna mounted on the head and antenna disposed within the head, which as previously discussed is neither taught or suggested by the cited references.

Claim 43 involves the step of blowing the label from the locator head to a reject area. As previously discussed with regard to independent claim 34, the cited references fail to teach or suggest this limitation.

Claim 46 adds the steps of moving an applicator head in a first direction toward the item to facilitate the step of blowing the label to the item and moving the applicator head in a second direction transverse to the first direction and toward the reject area to facilitate the step of blowing or moving the label to the reject area. As discussed earlier, the cited references fail to teach or suggest an applicator head which moves in the first and second directions as claimed.

Independent claim 47 includes the step of testing the label for viability adjacent the application zone with an RFID antenna mounted on an applicator head. As noted with regard to claim 41, the cited references fail to teach or suggest this limitation.

Claim 49 includes the step of moving the applicator head antenna toward the item, emphasizing the fact that the antenna moves with the applicator head, a limitation neither taught or suggested by the cited references.

Claim 50 requires in part that the antenna applicator head move toward a rejection location while carrying the label if the label is non-viable, again emphasizing the moving of the antenna in addition to the carrying of the label which has been discussed previously. Claim 50 in addition requires the step of removing the label from the applicator head to move the label to the rejection location. This again emphasizes that the applicator head was carrying the label toward the rejection location, which as previously discussed is not taught or suggested by the cited references.

New independent claim 54 includes the step of moving an applicator head in a first direction to apply the label to an item if a label is viable and moving the applicator head in a second direction transverse to the first direction to move the

label to a rejection location if the label is non-viable. As previously noted in the discussion of Applicant's invention and with regard to claim 46, the cited references fail to teach or suggest such movement of the applicator head. New claim 57 requires that the second direction is substantially perpendicular to the first direction, further defining over the cited references. New claim 58 requires that moving of the applicator head in the second direction involves moving the head laterally away from the application zone and toward the rejection zone, thus further defining over the cited references. New claim 59 requires that the lateral movement of the applicator head includes sliding the applicator head in a substantially horizontal direction, once again further defining over the cited references.

Applicant submits that the new claims not specifically explained here are addressed with regard to other claims or within the discussion of the Applicant's invention and the cited references and are therefore allowable in light of said discussion.

For the reasons discussed above, Applicant submits that claims 20-59 are allowable.

In view of the foregoing, the Applicant respectfully requests reconsideration of the claims and most earnestly solicits the issuance of a formal notice of allowability for the claims. Please call the undersigned attorney if any questions remain after this amendment or the Examiner has any suggestions to place the claims in condition for allowance.

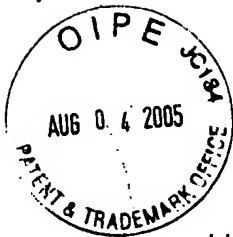
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